Installation guide

RADIO TYBOX PAC

Wireless programmable thermostat for heat pumps

informations

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CE

Device compliant with the requirements of directives:
R&TTE 1999/5/CE

Because of changes in standards and equipment, the characteristics given in the text and the illustrations in this document are not binding unless confirmed by Delta Dore.

DELTA DORE

Warnings

Carefully read these instructions prior to installation.

- The unit must be installed in compliance with currently applicable standards.
- Always switch off the mains before installing or servicing the unit.
- Do not attempt to repair the unit yourself; an after-sales service is available.
- Check that the fastenings are suited to the surface that the unit will be attached to (plasterboard, brick, etc.).
- The diagrams provided are simplified for greater clarity. The protective units and other accessories required by the standards are not illustrated.

Standard UTE NF C15-100 and good practice must be complied with. Connected or nearby equipment must not generate excessive interference (directive 2004/108/EEC).

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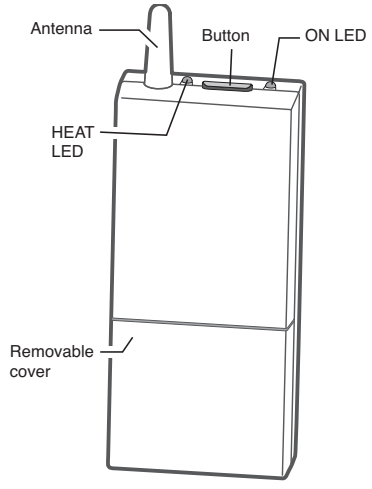
Presentation

RADIO TYBOX PAC is composed of a RADIO TYBOX PAC transmitter associated with an RF 652 receiver.



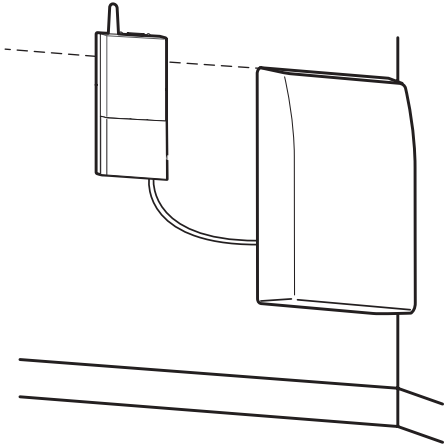
RF 652

The RF 652 receiver is connected to the heat pump
The elements of your system (receiver and transmitter) are already associated when delivered.

Location of the receiver

The receiver must be positioned near the heat pump control unit (e.g. Hydraulic module).

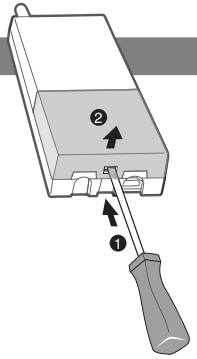
To avoid interference with the radio transmission, the antenna must be free from any metallic elements (cables, metallic covers, etc.).

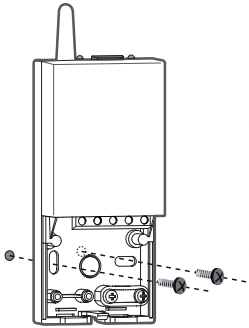


Mounting the receiver

Removing the cover

To remove the cover, push the tab and lift the cover.



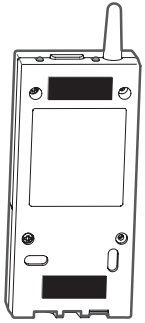


Screw-mounting

Mounted on a wall using the screws and pegs suited to the support

Mounting by double-sided adhesive tape

If you fit the receiver using adhesive tape, you must strictly follow the installation recommendations (see “location” section).
Ensure that the surface on which the tape is applied is thoroughly clean before attaching the tape.

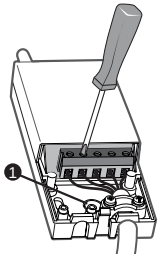


Connecting the receiver

Connect the control wires, pass the wires through the provided raceway or through the pierced hole ❶.

Refer to the section that deals with your type of installation.

When the connection is made, fit the cover and switch on the current at the circuit breaker.



Receiver operating modes

Depending on the type of heat pump used, 2 operating modes are possible.

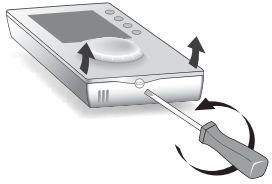
Mode 1 (default)
One change-over output + 1 thermostat output

- Output 1 (terminal 4):
  Change-over control of the heat pump
  Contact closed = Cool
  Contact open = Heat (Configuration 2-09)
- Output 2 (terminal 5):
  On/Off control of the heat pump
  Contact closed = On

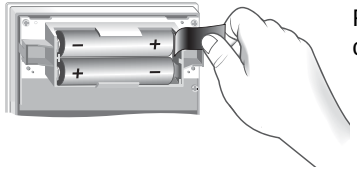
Mode 2 (2 thermostat outputs)
- Output 1 (terminal 4): Heat mode command
- Output 2 (terminal 5): Cool mode command

Location / Mounting the transmitter

For easier use, the RADIO TYBOX can be installed:
- **on a wall**: at an approximate height of 1.5 m, with screws/plugs,
- **on a support**: Placed on an item of furniture or a shelf.



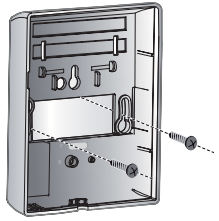
Separate the unit from its base by unlocking the casing.



Remove the battery cover.

Screw-mounting

Mount the base with screws and pegs suited to the support or on a flush-mounted box, then close and lock the unit.

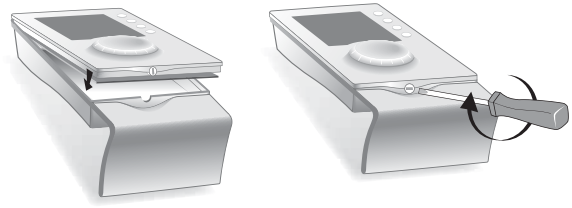


Fitting to the base

Position the unit on its base and lock it.

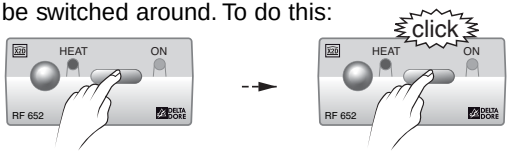
❶ Position the thermostat on its base.

❷ Lock the thermostat



Modifying the positions of the receiver's outputs

If necessary, the On position for the thermostat output can be switched around. To do this:

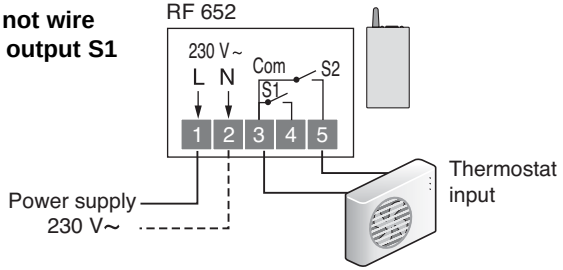


Press the button for approximately 10 seconds until the relay status changes

Mode 1 : Modification of the On position for the output S2
Mode 2 : Modification of the On positions for outputs S1 and S2

Non-reversible heat pump *Mode 1*

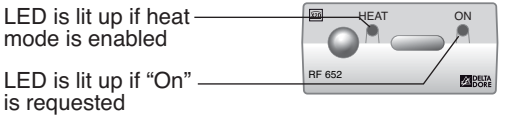
Do not wire the output S1



- Menu configuration

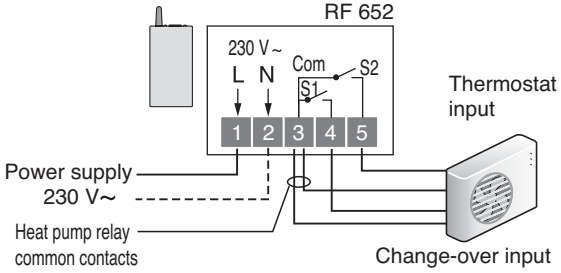
1-06	**Choice of the heat pump type** **1 = Non-reversible heat pump (heat only)**

- Description of the operating LEDs



The receiver is associated with the RADIO TYBOX 802 in mode 1 by default
(see radio association/ menu R section)

Reversible heat pump thermostat + change-over *Mode 1*

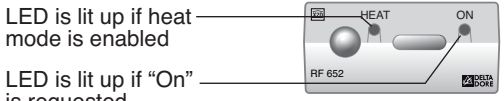


- Menu configuration

1-06	**Choice of heat pump type** **0 = Heat cool reversible heat pump (by default)**

2-09	**Selection of the opening direction for the change-over relay** **0 = Closed in cool mode - 1 = Closed in heat mode**

- Description of the operating LEDs



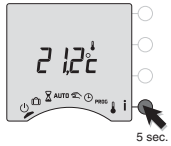
The receiver is associated with the RADIO TYBOX 802 in mode 1 by default (see radio association/ menu R section)

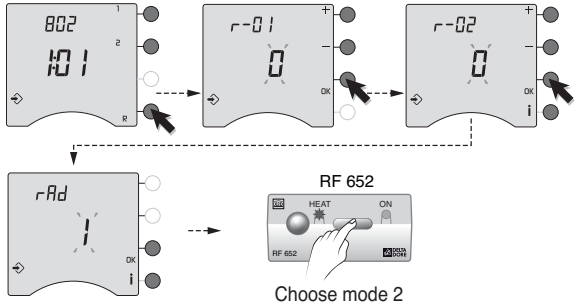
Reversible heat pump with 2 thermostat inputs (cool / heat) *Mode 2*

For this type of use, the receiver must be set to **mode 2** before wiring the heat pump's heat and cool inputs on the thermostat.

To change the mode on your receiver:

- turn the knob to ⏻,
- Press the **i** button to display the temperature
- then press the **i** button for 5 seconds.





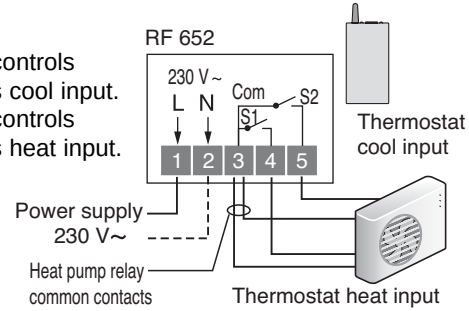
Pressing the receiver button switches between mode 1 and 2. Let the HEAT LED flash rapidly.

The HEAT LED flashes slowly: Mode 1
The HEAT LED flashes rapidly: Mode 2.

On the RADIO TYBOX:

- Pres the button **i,** the receiver is set to mode 2
- Turn the knob to **AUTO** to exit the association mode
- Cut off the power supply to the receiver and connect it to the heat pump.

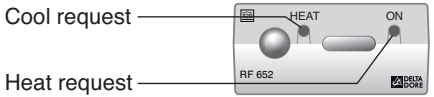
The S1 output controls the thermostat's cool input.
The S2 output controls the thermostat's heat input.



- Menu configuration

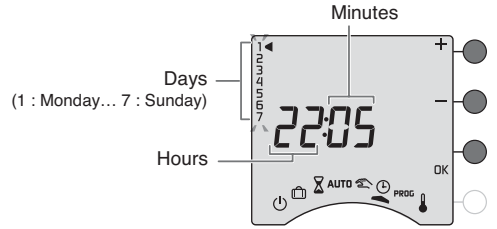
1-06	**Choice of heat pump type** **0 = Heat cool reversible heat pump (default)**

- Description of the operating LEDs



Starting up

When you turn the unit on for the first time, you will need to set the time.



Turn the knob to ⏲.
The days flash.

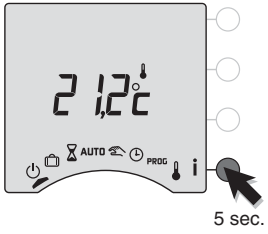
Press + or - to change the day, then press OK to confirm and continue on to the next setting.

Repeat the operations to set the hours and minutes.

To leave the "time setting" mode, turn the knob.

Configuration

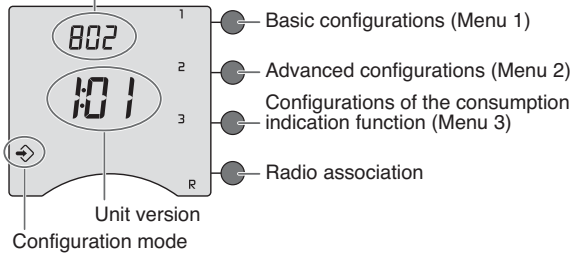
To access the configuration menus,



- turn the knob to ⏻,
- press the **i** button to display the temperature
- then press the **i** button for 5 seconds.

The unit will propose 4 configurations to choose from:

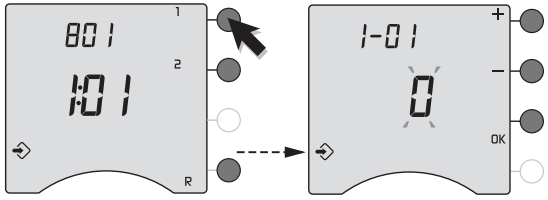
Unit version (e.g. RADIO TYBOX 802)



Menu 3 is only accessible if the RADIO TYBOX is associated with RADIO TYWATT.

Basic configurations (menu 1)

Press button **1**,



To change the various settings, press the + or - buttons, then press OK to confirm the change and go to the next setting.

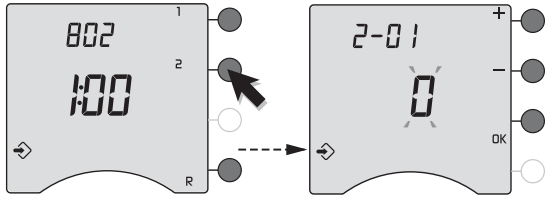
1-01 Choice of programming	0	Weekly (by default)
	1	Daily
1-02 Choice of programming increments	0	1-hour increments (by default)
	1	30-minute increments
	2	15-minute increments
1-06 Choice of heat pump type	0	Reversible heat pump (by default) (heat and cool)
	1	Non-reversible heat pump (heat only)

For hot water heaters with thermostatic valves, the Comfort temperature can be provided by adjusting the thermostat of each radiator.
In this case, only Economy and Frost Protection temperatures are set by the RADIO TYBOX.

1-08 Controlling the Comfort temperature	0	Comfort temperature set by the TYBOX (by default)
	1	Comfort temperature controlled by each radiator or fan coil unit. *Here, the display reads ConF during Comfort period.*

1-09 Circulator anti-seizing	0	Anti-seizing disabled (default)
	1	Anti-seizing enabled (circulator operates for 1 minute every 24 hours)

Advanced configurations (menu 2)

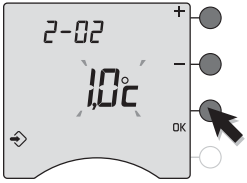


Press button **2**.
To change the various settings, press the + or - buttons, then press OK to confirm the change and go to the next setting.

2-01 Modification authorization for the user	0	Program and temperature settings (from 5 to 30°C) modification authorized
	1	Program and set-point setting modification unauthorized (Heat comfort: 16 to 22°C, Cool comfort: 21 to 27°C, Warm economy: 13 to 19°C, Cool economy: 24 to 30°C)

If there is a difference between the temperature noted (thermometer) and the temperature measured and displayed by the unit, function 2-02 modifies the way the probe takes measurements so as to compensate for this difference.

2-02 Correction of the measured temperature	Correction possible from -5°C to +5°C in increments of 0.1°C. Press the + or - buttons to make changes, and confirm with the OK button.



E.g.
If the temperature displayed by the unit is 19°C and the temperature measured is 20°C, add 1°C to the display and confirm by pressing OK.

2-04 Automatic mode temperature display option	0	Continuous set-point temperature display (by default). *With this option, press* **i** *to display the room temperature.*
	1	Continuous room temperature display. *With this option, press* **i** *to display t he set-point temperature.*

2-08 Control time base	30	minutes
	45	minutes
	60	minutes (by default)

2-09 Selection of the opening direction for the change -over relay	0	Closed in Cool mode (by default)
	1	Closed in Heat mode

Radio association (menu R)

This menu lets you associate all the installation's wireless products (transmitters and receivers) with the RADIO TYBOX.

Go to the radio association menu

Turn the knob to ⏻, press the **i** button to display the temperature

- then press the **i** button for 5 seconds.
- press the R button.

Home automation features on the installation

Up to 8 products can be associated with the RADIO TYBOX. The features are the following:
- operation with door/window magnetic contacts,
- operation with a **TYXAL** alarm central control unit
- operation with **TYXAL** or **TYDOM** remote controls (Delta Dore),
- operation with a home automation transmitter (e.g. **TYDOM 310**).

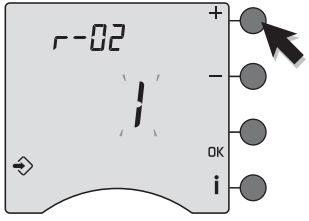
If you wish to associate one of these products, set the following menu to the value 1.

r-01 Home automation features on the installation	0	No home automation features
	1	Home automation features associated with the RADIO TYBOX

Press + or - to make your choice.
Press OK to confirm and go to the next mode.

“Consumption indication” feature

To associate a consumption indicator with the RADIO TYBOX (e.g. RADIO TYWATT).



r-02 Consumption indication function	0 No consumption indication
	1 Consumption indicator to associate

Press + or - to display **1** flashing.

Confirm on the RADIO TYWATT.

Check on the RADIO TYBOX that **1** is no longer flashing.

The RADIO TYBOX and the RADIO TYWATT are associated.

Radio association (menu R)

Associating radio products with the RADIO TYBOX

From the menu rAd.

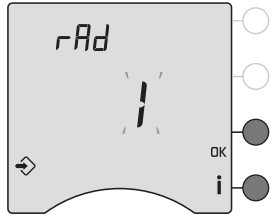
1st step: the receiver is delivered already associated with the transmitter.
The display indicates “rAd” as well as the number of associated products (1 receiver).

You can go straight on to the 2nd step,

Associating the home automation products.

To associate a wireless receiver again, you must first remove all associations (see Removing radio associations section), then, on the receiver:

for three seconds, press and hold the button on the receiver you wish to associate.



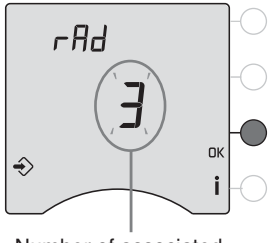
The corresponding LED flashes.

On the RADIO TYBOX, press the **i.** button.

The screen displays **1**.

The receiver is associated with the RADIO TYBOX.

2nd step: Associating the home automation products.



Number of associated transmitters

On the home automation product to associate, confirm the association as indicated in the table or refer to its user guide.

Each newly associated product is displayed on the screen.

Press OK to confirm

Product	Association
Door/window magnetic contact Open Window: - **Heat mode**: heating in frost protection mode - **Cool mode** : Cooling is shut down	Press the button.
TYXIA remote control Comfort or Economy overrides.	Simultaneously press and hold the buttons ▲▼ for 5 seconds, le LED comes on, goes off, and then comes back on, release the buttons.

Radio association (menu R)

Product	Association
Telephone transmitter Remote control of the installation	Enter the first 4 numbers of the access code (1234 by default), then press the ON (✱) button for 5 seconds.
TYXAL control unit Monitoring alarm on: Heating in Economy mode Heating in Economy mode Monitoring alarm off: Heating in Comfort mode (override in AUTO mode)	Set the control unit to maintenance mode before switching the RADIO TYBOX to radio association (menu rAd). Simultaneously press and hold the ON and OFF buttons of the unit's control device for 5 seconds to switch to maintenance mode. Open the cover of the control unit and press the "test" button. Close the control unit.
Outside sensor Indication of the outside temperature (without optimization)	Press the association button, the LED switches on then off. Close the sensor unit.

Product	Association
Home automation remote control Comfort / Economy and/or ON / OFF overrides	Press the domain button until ⌂ until the remote control emits a beep and the symbol ᛉ flashes. **Associate the buttons ☼ and ☽** Press one of the tactile buttons ☼ or ☽. **Associate the buttons ⏻ and ▶** Press one of the tactile buttons ⏻ or ▶. To exit the association mode, press another domain button (e.g. ✱).

Once the radio associations are made, press the OK button to confirm and go on to the next mode.

Configuration des options (menu 3)

The menus 3-12 to 3-18 are only accessible if the RADIO TYBOX is associated with a RADIO TYWATT.

To access the display of consumption, heating, DHW and other uses, you must declare the number of CTs (current transformers, ref. 6330004) associated with the RADIO TYWATT option.

3-12 Number of CTs	0	No consumption indication (by default)
	1	1 CT (Heating)
	2	2 CTs (Heating + DHW)
	3	Not used

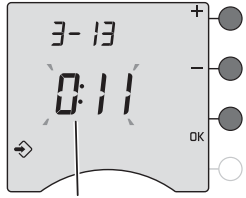
3-13 à 3-18 Coût du Kwh (TTC)

The price displayed is the price per kWh (excl. subscription) expressed in euros including taxes (price including municipal and regional taxes and VAT (average of 30%).

For further information, contact your electricity provider.

We advise you to round to the nearest cent.

E.g. 0.1085 euros is 0.11 euros.



0.11 euros (incl. tax)

Configurations 3-13 to 3-18 let you modify costs according to your subscription.

Subscription option	Base	Double tariff	*tempo*	EJP
3-13	Base	OP	OP blue day	Normal hours
3-14	-	PH	PH blue day	Peak hours
3-15	-	-	white day OP	-
3-16	-	-	white day PH	-
3-17	-	-	red day OP	-
3-18	-	-	red day PH	-

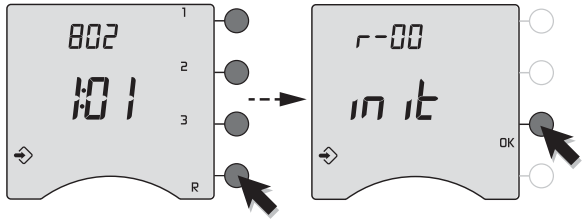
PH: Peak Hours, OP: Off-peak Hours

IMPORTANT: The consumption value that you can read on the digital screen is a non-contractual indication and cannot be substituted with the consumption value mentioned on your electricity bill..

After menu 3 has been configured, the unit returns to the choice of menus.
To exit the configuration, turn the knob to the right.

Removing radio associations

To cancel all radio associations, turn the knob to ⏻, then hold the **i** button down for 5 seconds. (this action also removes the displayed consumption information).



Press and hold the R button for 5 seconds.

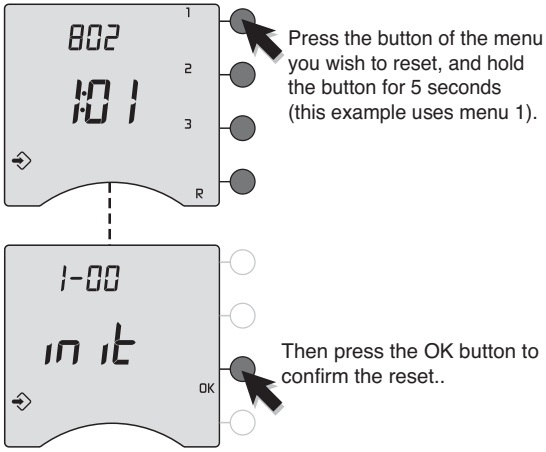
Then press the OK button to confirm the reset.

To associate the receiver with the transmitter again, refer to the “radio association” section.

Manually resetting the receiver:
Press the receiver button for 30 seconds until the HEAT LED flashes rapidly.

Return to the factory configuration

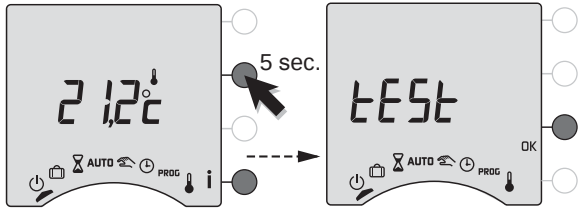
A return to the factory configuration is possible for menus 1, 2, and 3.
Turn the knob to ⏻, then press and hold the **i** button for 5 seconds.



Follow the same steps for the other menus.
To exit this mode, turn the knob to the right.

Radio test

Turn the knob to ⏻, then hold the 2nd button (from the top) down for 5 seconds until **tESt** appears.



The HEAT LED on the receiver should flash for each reception (approximately every 6 seconds).

If this happens, radio transmission is occurring correctly.

If this does not occur, move your transmitter.

Turn the knob or press the OK button to exit the **tESt** mode.

Summary table of configurations

1-01	**Type of programming** 0 = weekly 1= daily
1-02	**Pas de programmation** 0 = 1 hour 1 = 30 minutes 2 = 15 minutes

1-06	**Choice of heat pump type** 0 = reversible heat pump (by default) 1 = Non-reversible heat pump (heat only)
1-08	**Controlling the Comfort temperature** 0 = set by the RADIO TYBOX (by default) 1 = by each radiator or fan coil unit.
1-09	**Circulator anti-seizing feature** 0 = Disabled 1 = Enabled
2-01	**Modification authorization** 0 = Program and settings may be changed 1 = Program not modifiable and set-point temperature settings limited (Comfort: 16 to 22°C Economy: 13 to 19°C, Frost Protection: 5 to 11°C)
2-02	**Correction of the temperature measured** by -5°C to +5°C in increments of 0.1°C.
2-04	**Automatic mode temperature display option** 0 = Set-point temperature display 1 = Room temperature display
2-08	**Control time base** 30 Minutes 45 Minutes 60 Minutes
2-09	**Selection of the opening direction for the change-over relay** 0 = Closed in cool mode 1 = Closed in heat mode

Summary table of configurations

Radio association (menu R)	
r-01	**Home automation features** 0 = No 1 = Yes
r-02	**Consumption indication** 0 = No 1 = Yes
rAd	**Radio products association**
Zone rAd 1	**Reserved menu**
With a RADIO TYWATT	
3-12	**Number of CTs** 0 = No RADIO TYWATT 1 = 1 CT (Heating) 2 = 2 CTs (Heating + DHW) 3 = 3 CTs
3-13 to 3-18	**Cost per kWh according to subscription**

Technical characteristics

RADIO TYBOX transmitter

- Power supplied by two LR03 or AAA-type 1.5 V alkaline batteries (supplied), autonomy of 2 years for normal use
- Class III insulation
- Clock back-up in the event of battery change: 30 seconds
- Radio range 100 to 300 metres outside, variable depending on the associated equipment (the range can be altered depending on the installation conditions and the electromagnetic environment)
- Radio frequency 868 MHz, class I (standard EN 300 220)
- Radio remote control device
- Dimensions: LxHxD = 80 x 103 x 16 mm
- Protection index: IP 40
- Storage temperature: -10°C to +70°C
- Operating temperature: 0°C to +40°C
- Installation in an environment with normal pollution levels
- Mounting with screws or on a support
- Minimum time for triggering the outputs: 10% of the time base (see menu 2-08).

Technical characteristics

RF 652 receiver

- 230 V, 50 Hz power supply, +/-10%
- Class II insulation
- Power consumption: 0.5 VA
- Maximum power: 3A 230 Veff Cos ? = 1

Î Radio frequency 868 MHz, class 1 (Standard EN 300 220),

- Radio remote control device
- Radio range 100 to 300 metres outside, variable depending on the associated equipment (the range can be altered depending on the installation conditions and the electromagnetic environment)
- Automatic action: type 1.C
- Storage temperature: -10 to +70°C
- Operating temperature: 0°C +40°C,
- Dimensions: 120 x 54 x 25 mm
- Protection index: IP 44 - IK 04
- Install in an environment with normal pollution levels.

Troubleshooting

Nothing is displayed on the room unit screen.
There is no power supply
Check the batteries.

The receiver does not accept orders from the transmitter.
- Check the transmission by performing a radio test.
- Move your transmitter if necessary.
- Repeat the radio-controlled association of the receiver with the RADIO TYBOX.

The indication ▭ is displayed.
The batteries are low.
Change the batteries, making sure they are the right way round.

The unit displays: dEF 6.
There is a communication fault between the RADIO TYBOX and the RF 652 receiver.
Check the installation.

You wish to associate a home automation feature and the screen displays ---- .
You have reached the maximum number of functions to associate.

During the radio association, then device displays: Zone rAd 1.
This menu is reserved.
*Associate the receiver again from the **rAd** menu.*

The device displays “CONF”.
The parameter 1.08 is set to 1.
The setting is controlled by each radiator or coil fan.